ATTACHMENT ONE

OVERVIEW OF THE FOUR-YEAR EWA PROGRAM

The Environmental Water Account (EWA) Program is a cooperative management program involving five agencies that have responsibility for implementing the EWA. The U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and the California Department of Fish and Game (DFG), collectively the Management Agencies, have primary responsibility for managing EWA assets and exercising their biological judgment to determine what State Water Project and Central Valley Project (SWP/CVP) operational changes are beneficial to the San Francisco Bay/Sacramento-San Joaquin Delta (Bay-Delta) ecosystem and/or the long-term survival of fish species, including those listed under the State and Federal Endangered Species Acts. The U.S. Bureau of Reclamation (USBR) and the California Department of Water Resources (DWR), collectively the Project Agencies, will cooperate with the Management Agencies in administering the EWA, including banking, borrowing, transferring, selling, and arranging for the conveyance of EWA assets, and making the operational changes proposed by the Management Agencies.

The EWA focuses on resolving the fishery/water diversion conflict at the SWP/CVP Delta export pumps because, in recent years, these diversions have suffered the greatest fluctuations in water supply reliability due to conflicts with fishery needs. To accomplish this purpose, the EWA will incorporate environmentally beneficial changes to the operation of the SWP/CVP, at no uncompensated water cost to the SWP/CVP water users. The EWA is intended to provide sufficient protections, combined with the Ecosystem Restoration Program and the regulatory baseline, to address CALFED's fishery protection and restoration/recovery needs. The "EWA assets" will be used to:

1) Augment streamflow and Delta outflow;
2) Modify exports to provide fishery benefits during critical life history stages; and
3) Replace SWP/CVP water supply interrupted by the changes to SWP/CVP operations.

These objectives will be met by scheduling the use of EWA assets in response to several biological indicators and life history needs of fish as explained below. The presence or absence of targeted fishery resources within the SWP affected streams depends on a number of environmental factors (e.g., photoperiod, Delta outflow, temperature, etc). Therefore, the period of greatest vulnerability to aquatic resources varies from year to year in the Delta. Coordination through the CALFED Operations Group[1] and the (b)(2) Implementation Team[1] will be conducted monthly to optimize fishery benefits of all environmental water. Using an adaptive management approach, use of EWA assets will be scheduled by the Management Agencies in coordination with the Project Agencies.

[1] (b)(2) Implementation Team: The (b)(2) Implementation Team implements the Central Valley Project Improvement Act Section 3406 (b)(2) reallocating 800,000 acre-feet of water for environmental purposes. Representatives of the USBR, USFWS, NMFS, DFG and DWR serve on the team.

Decisions designed to protect species such as Chinook salmon, steelhead, Delta smelt, and splittail will be made based on real-time assessments of relative risk and benefit. The following operational scenario could be used for EWA and (b)(2) actions. It should be emphasized that the following example is highly provisional; actual actions will be based upon biological factors and hydrologic conditions. Starting in December, a number of upstream and Delta planned actions could be implemented.

The Management Agencies may initiate Delta pumping cutbacks when fish are in the vicinity of the Tracy and Banks export pumps. As the cutbacks occur, the Management Agencies will release EWA assets to the Project Agencies to allow continued delivery of water supplies to SWP water contractors. These planned actions could include adjusting the allowable export-to-inflow ratio to allow pumping of water for the EWA.

In January, EWA actions will focus on improving the survival of juvenile salmon emigrating through the Delta. Increased survival of juvenile salmon would be accomplished by curtailing project export pumping during critical periods to increase the amount of water available for juvenile salmon emigration. The timing and duration of pumping cutbacks would be determined by a combination of biological factors.

To ensure survival of sensitive fish species during February and March, EWA assets would be released to allow the curtailment of pumping when fish densities are high near the CVP Tracy and SWP Banks export pumps. The anticipated amount of pumping curtailment is about 50,000 acre-feet. In dry conditions, exports would not be as high and there would be no need to curtail pumping.

In April and May both (b)(2) and EWA assets would be released to reduce exports before and after the VAMP[2] period. Assets would also be used to fill San Luis Reservoir.

In April and May both (b)(2) and EWA assets would be used if exports are reduced before and after the VAMP[3] period. Assets would also be used to reduce the drawdown of San Luis Reservoir.

During June and July SWP water exports could be reduced to avoid high salvage of sensitive fish species, such as delta smelt and Sacramento splittail. EWA assets would then be released to compensate for these export reductions. Other actions during EWA

[2] Vernalis Adaptive Management Program (VAMP): Under dry conditions (90% hydrology), CVP and SWP exports will be reduced to a combined total of 1,500 cfs for 31 days. Under normal conditions (50% hydrology), exports will be reduced to 2,250 cfs for 3 days. The reduction will be accomplished using a combination of (b)(2) and EWA assets. For example, (b)(2) will be used to reduce CVP exports and SWP exports from the "2:1" level contained in the delta smelt biological opinion down to the SWP share of the export objective during the VAMP period. The difference between "1:1" and "2:1" will be covered by the EWA.

[3] Vernalis Adaptive Management Program (VAMP): Under dry conditions (90 percent hydrology), CVP and SWP exports will be reduced to a combined total of 1,500 cfs for 31 days. Under normal conditions (50 percent hydrology), exports will be reduced to 2,250 cfs for 3 days. The reduction will be accomplished using a combination of (b)(2) and EWA assets. For example, (b)(2) will be used to reduce CVP exports and SWP exports from the "2:1" level contained in the delta smelt biological opinion down to the SWP share of the export objective during the VAMP period. The difference between "1:1" and "2:1" will be covered by the EWA.

implementation may involve upstream water releases from reservoirs to improve instream flow conditions during periods of anadromous fish migration, spawning, egg incubation, rearing, and juvenile emigration.

Current regulatory baseline programs include affecting SWP, CVP, and EWA operations include:

1) 1993 Winter-run Biological Opinion (NMFS)
2) 1995 Delta Water Quality Control Plan, State Water Resources Control Board (SWRCB)
3) 1995 Delta Smelt Biological Opinion (USFWS)
4) Management of the full 800,000 acre-feet of CVP Yield Pursuant to Section 3406(b)(2) (or (b)(2) Water) of the Central Valley Project Improvement Act (CVPIA)
5) Other environmental protections, including Level 2[4] refuge water supplies as required by the CVPIA

The EWA will not be used to meet any new regulatory requirements under the Federal Endangered Species Act and the California Endangered Species Act or other statutes.

POTENTIAL EWA ASSETS

Several processes can be used to acquire EWA assets and/or functional equivalent sources of SWP/CVP water supply to offset the effects of operational curtailments under the EWA program so that deliveries will not be affected.

1. ACQUISITION OF WATER FOR THE EWA

A. Purchases

The Project Agencies will use EWA funds to purchase EWA assets from willing sellers both north and south of the Delta. Purchases can include leases, options, long-term agreements, and any other property or contractual transaction that make alternative SWP/CVP supplies available south of the Delta or available for conveyance to south of the Delta. Purchases will also include the acquisition of storage space in groundwater basins to bank EWA assets. The Management Agencies will identify assets to replace water lost to the SWP/CVP due to operational curtailment, and to be pledged as collateral when the EWA borrows from the SWP/CVP. The Project Agencies will accept the asset if the collateral meets the agreed guidelines for borrowing. The release of the asset shall be in accordance with a schedule agreed to by both the Management Agencies and the Project Agencies. A tentative release schedule will accompany an identified asset. The Project Agencies

[4] Level 2 – The 1989 and 1992 Refuge Water Supply Studies define Level 2 refuge water supplies as the average amount of water the refuges received between 1974 and 1983.

will coordinate EWA water acquisition with Level 4[5] refuge water acquisitions to ensure that both of these priority acquisitions are accomplished each year.

B. Delta Operations

SWP/CVP Delta operations will involve four mechanisms by which EWA water assets are acquired.

i. Sharing of (b)(2) water and Ecosystem Restoration Program (ERP) water pumped by the SWP.

The SWP and the EWA will share, on a 50-50 basis, the lesser of:

a) water released from storage or made available for upstream purposes under either CVPIA Section 3406(b)(2) or the Ecosystem Restoration Program (ERP) and arrives in the Delta with no further ERP or (b)(2) purposes to serve;
b) water that exceeds the export capacity of the CVP Tracy pumping plant;
c) water for which the SWP and EWA both have demand for south of the Delta; and
d) water the SWP has capacity to pump.

ii. Joint Point[6]: SWP Wheeling of CVP and EWA water.

The SWP will use excess capacity at its Harvey O. Banks (Banks) Pumping Plant to pump water for both the CVP and the EWA, to be shared between them on a 50-50 basis. The CVP water could be either from storage or from its Delta water rights to divert unstored water. The EWA water could be either from non-SWP/CVP water acquired north of the Delta or stored or unstored water pumped under CVP or SWP water rights. If either the CVP or EWA is demand-limited[7], the other's use of Joint Point will not count against its 50 percent share.

Use of excess capacity at Banks for the EWA and CVP will take precedence over all other non-SWP pumping, except for wheeling water to respond to facility outages and wheeling to supply CVP contractors for whom the SWP has traditionally wheeled CVP water. The relative priority of Level 4 refuge water is currently being determined.

iii. SWP Appropriation of Unregulated Flow

[5] Level 4 – Level 4 refuge water supplies are defined in the 1989 and 1992 Refuge Water Supply Studies as the amount of water for full development of the refuges based upon management goals developed in the 1980s.
[6] The term joint point is used here to refer primarily to the use of the SWP point of diversion alone, and specifically, to the wheeling of EWA as well as CVP water.
[7] A project is "demand-limited" if no contractors want any more water than they are currently receiving, and if available storage facilities and/or conveyance facilities are full.

The SWP may use its Delta diversion rights to pump water from the Delta for EWA purposes when the demand for SWP supplies is less than the available supply. The SWP diversion rights would be used in cases where Joint Point could also be used but where it would be preferable to create EWA assets south of the Delta to offset SWP rather than CVP losses to operational curtailments. As an adjunct to Joint Point, it would simply utilize SWP rather than CVP water rights to pump excess flows for the EWA's share. It would not affect the CVP's own share of excess SWP capacity.

iv. SWP/CVP Pumping made Possible by Regulatory Relaxation

(a)Relaxation of the Section 10 Constraint

The SWP is limited under Section 10 of the Rivers and Harbors Act[8], pursuant to US Army Corps of Engineers (Corps) Public Notice 5829-A, to a three-day average rate of diversion of water into Clifton Court Forebay of 13,250 acre-feet per day. This is equal to an average, around the clock diversion rate of 6,680 cfs. This rate may be increased during winter months when the San Joaquin River flow is above 1,000 cfs.

The Corps granted permission to the SWP to increase the base diversion rate by the equivalent of 500 cfs to an average of 7,180 cfs for the months of July through September, through 2002. This 500 cfs will be dedicated to pumping for the EWA.

(b) Relaxation of the Export/Inflow Ratio

Under D-1641[9], and anticipated under the SWRCB order to be issued upon completion of the Bay-Delta water rights hearing, SWP/CVP exports are limited at different times of the year to a certain percentage of Delta inflow (usually 35 or 65 percent). This limitation is called the Export/Inflow, or E/I ratio. Both D-1641 and the 1995 Water Quality Control Plan, consistent with the 1994 Principles for Agreement (Bay-Delta Accord) allow for these ratios to be relaxed upon the meeting of certain requirements. Relaxation of the E/I ratio will be sought as

[8] Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from the Army Corps of Engineers. Under Section 10, the Corps regulates projects or construction of structures that could interfere with navigation. A Department of the Army permit is needed to construct any structure on any navigable water of the United States, to excavate or deposit material in such waters, or to do any work affecting the course, location, condition, or physical capacity of such waters.

[9] D-1641-The State Water Resources Control Board issued Decision 1641 on December 29, 1999. The order requires the Project Agencies maintain their respective outflow standards until November 30, 2001 or until the Board adopts a further decision during its water rights hearings. It is currently in litigation, but the project agencies continue to voluntarily comply with the standards.

appropriate and used to create EWA assets south of the Delta. By relaxing the E/I ratio, up to 20,000 acre-feet could be exported for the EWA. This water would be exported by the SWP and held in San Luis Reservoir for later use.

The decisions for implementation of EWA actions and use of the various EWA assets will be coordinated through the CALFED Operations Group. The Ops Group will be used to report regularly on the EWA's operations, to help resolve issues that may arise, and to communicate to stakeholders. In addition, staff for the Management and Project Agencies is developing protocols for use of EWA assets. The CALFED Science Program has convened a scientific panel that reviews the EWA operations on an annual basis. The Management Agencies and the Project Agencies will keep this panel informed on a monthly basis through the CALFED Ops Group reporting process.

2. BANKING OF EWA ASSETS

A. Generally

Banking is the storage of water for later use that otherwise would be used or lost in the present. Water can be banked and used within the same water year or carried over for use in a subsequent water year. Even though the acquisition of stored water does not convert a transitory asset into a durable asset, banking is included as an EWA transaction. Like the acquisition of assets, banking transactions must provide for access to and the release of the stored EWA assets to the SWP/CVP.

The provisions of the banking document generally will control priority of EWA assets in storage. Unless the Management Agencies and the Project Agencies make other arrangements, EWA assets will have a lower priority for storage in SWP/CVP reservoirs than SWP/CVP water and thus will spill first. SWP/CVP reservoirs are operated for SWP/CVP purposes such as flood control, downstream temperature control, minimum downstream flows for fish, meeting regulatory requirements, and providing contract water supply including contractor carryover water.

B. Banking in SWP/CVP Reservoirs

EWA assets may be stored or banked in SWP/CVP reservoirs upstream of the Delta as well as in San Luis Reservoir provided the SWP/CVP do not incur any additional adverse operational impacts. The EWA will share this lower storage priority with water acquired for Level 4 refuge needs. The Project and Management Agencies shall jointly establish reasonable and practical standards for determining when an EWA asset may be stored and when it would spill or be lost from upstream SWP/CVP storage.

Banking EWA water south of the Delta will be important because it creates highly reliable assets which are both durable and which may be released without Delta constraints being an issue.

C. Groundwater Banking

At times, the EWA may bank surface water within existing groundwater banks to prevent loss by spilling from SWP/CVP reservoirs. Usually, if imported water is physically stored in a groundwater basin, the storing agency will have a first and exclusive right to the water stored.

D. Source-Shifting Agreements

The purpose of water banking is to have water available for use at a time other than its original availability. Source-shifting agreements fall under this functional definition of "banking". Source-shifting agreements are executed with a water agency that is able, at certain times, to call on non-Delta water sources to temporarily create an asset for use by the EWA. In these cases, the water agency is agreeing to a reduction in deliveries so these assets can be used for EWA operational curtailments. Replacement of the source-shifted water occurs at a mutually agreed upon time with the water agency without any incremental impacts to the SWP/CVP.

The proposed source-shifting agreement with Metropolitan is an example of such a banking arrangement. Metropolitan will defer up to 200,000 acre-feet for use by the EWA, which will help provide assurance that SWP and CVP water deliveries and operations will not be adversely affected by EWA operations.

3. BORROWING

Borrowing agreements will allow the EWA to borrow water from the CVP and SWP for fish protection during a water year as long as the water can be repaid without affecting the current or following year's allocations. Borrowing of SWP/CVP water, specifically water in San Luis Reservoir, is intended to enhance the effectiveness and use of EWA assets. SWP/CVP water in San Luis Reservoir may be borrowed to support an operational curtailment in lieu of immediately releasing an EWA asset when the borrowed water is not needed at that time to make SWP/CVP deliveries. Borrowing can only take place when the borrowed water would not create or exacerbate water quality and supply problems associated with the San Luis low point, and it meets reasonable carryover storage objectives.

An appropriate EWA asset will be pledged to assure that, if the borrowed water is not otherwise made up, release of the pledged asset will not cause SWP/CVP deliveries to be affected by the borrowing transaction.

4. TRANSFERS USING DELTA CONVEYANCE

Transfers will be used to create assets south of the Delta from assets upstream of the Delta. They can also be used to make acquisitions south of the Delta suitable for release to SWP/CVP use, where a change in the legal place or purpose of use or point of the water is needed.